IBM / Technical Newsletter

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Prerequisite Newsletters None

IBM 5294 Control Unit Maintenance Library
Maintenance Information
Parts Catalog
I/PAR Code Guide
CE/CSR Log

This technical newsletter provides replacement pages for the subject publication. Pages to be inserted and/or removed are:

1-21, 1-22	5-9, 5-10
1-49, 1-50	5-15, 5-16
5-3, 5-4	

Changes to text and illustrations are indicated by a vertical line to the left of the change.

Summary of Amendments

This technical newsletter provides additions related to the IBM 5294 Models K01 and S01.

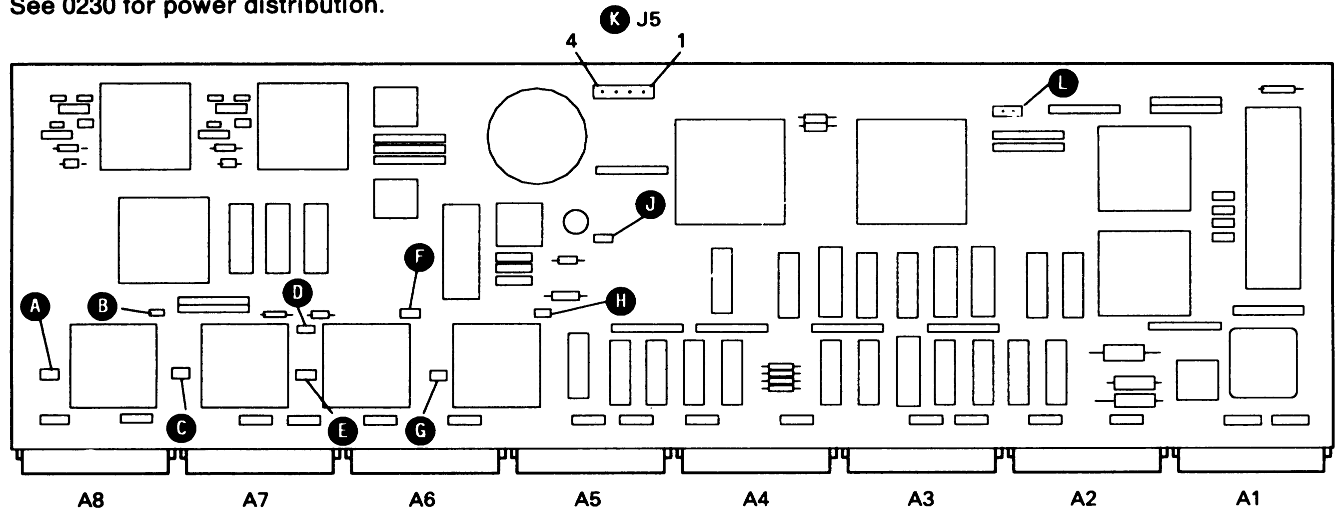
Note: *Please file this cover letter at the back of the manual to provide a record of changes.*

IBM Corporation, Information Development, Department E02, Raleigh, North Carolina 27709

Planar

0410 Connector and Test Points Locations

See 0230 for power distribution.



Jumper Positions A through H

These jumpers disable sections of the ROS on the planar. They must not be installed unless a patch card for the function is installed in logic board sockets C7, D5, and/or D7. Some jumper positions are not present on all machines.

A Reserved.

B World Trade Translate.
If this jumper position is present, install a jumper when a translate card is installed in logic board socket C7.

C Work Station Manager (E: 8000 to BFFF). See Note 2.

D Work Station Manager (E: C000 to FFFF). See Note 2.

E Data Stream Manager (F: 0000 to 3FFF). See Note 3.

F Customer Setup and Data Stream Manager (F: 4000 to 7FFF).

G SNA-SDLC (F: 8000 to BFFF).

H Diagnostics (F: C000 to FFFF).

J Used for manufacturing test only. Must be left on.

K J5

Pins 1 and 2: Jumper is installed for power-on diagnostics loop test.

Pins 3 and 4: Jumper is installed for twinaxial continuous transmit test.

L Present for X.21 Planars only. Jumper must be installed when the X.21 Switched Support feature ROS is installed.

Notes:

1. When a jumper is installed at positions D, E, F, G, and/or H, the planar ROS for the hexadecimal address range (in parentheses) for that position is disabled.
2. The Enhanced Keyboard feature or the Model S01 requires that jumpers be installed at positions C and D.
3. The Extended Function A for the Models K01 or S01 feature requires a jumper at position E.

0440 Planar Removal and Replacement Procedure

Note: Attempt to read the customer configuration (0460) before removing the planar and record the data shown in fields 1 through 8.

1. Power off the work station controller and remove the line cord from the AC outlet.

2. Remove the planar as follows:

   a. Use a flat-blade screwdriver and turn the screw-type extractors at both ends of the planar in a clockwise direction. This will loosen the planar from the logic board.
   b. Lift the planar off the logic board.

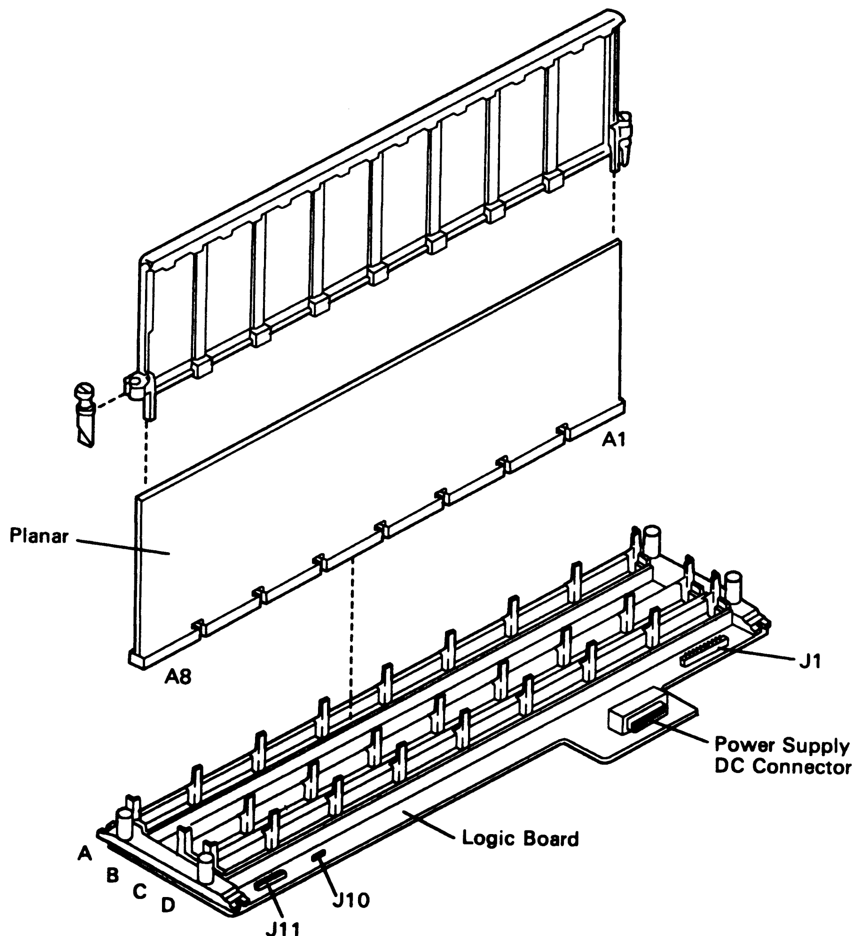
3. If the new planar does not have a plastic stiffener on it, remove the stiffener from the old planar and install it on the new planar.

4. Replace the planar in the reverse order of removal.

5. Enter the configuration (0460).

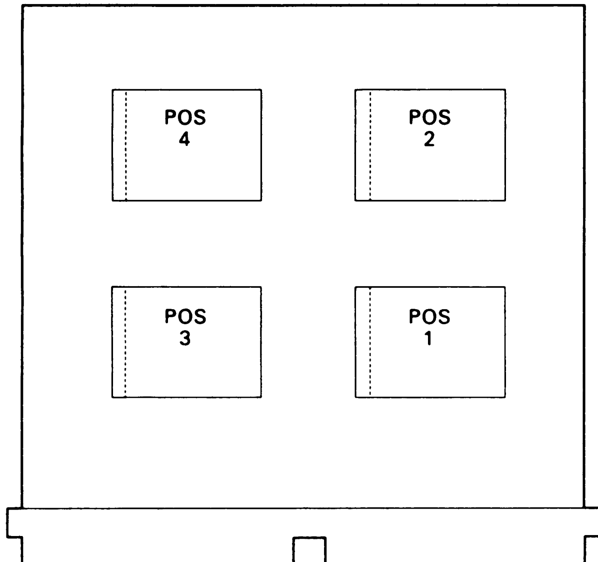
Note: When replacing the planar, check for patch cards installed in sockets C5, C7, D5, and/or D7. If patch cards are installed, check the label on the cards to see if they should be removed and returned with the old planar.

The Enhanced Keyboard feature requires that jumpers be installed. (See 0410)

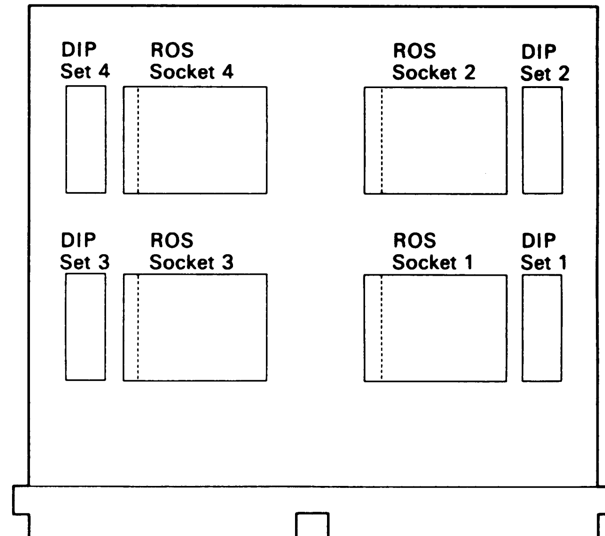


0760 ROS/EPROM Card Identification

Old style ROS card (Note 1)
P/N 2451982



Addressable ROS card (Note 2)
P/N 67X0718



Notes:

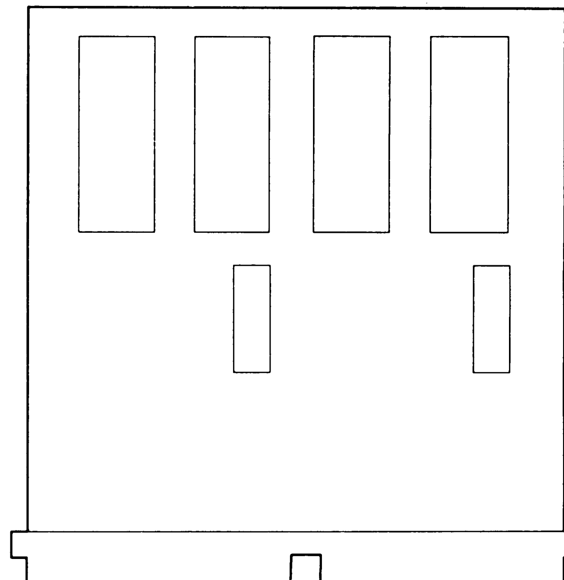
1. The old style card supports only the following features:

   - Expanded/Extended Function (POS 1)
   - X.25 Packet Switched Network (POS 2) (Note 3)
   - X.21 Circuit Switched Support (POS 2) (Note 3) ffileext Entry Assist ROS Module A (POS 3)
   - Text Entry Assist ROS Module B (POS 4)
   - Text Entry Assist "A" ROS Module A (POS 3)
   - Text Entry Assist "A" ROS Module B (POS 4)

2. The addressable card supports all ROS features in any position with proper switch settings (MIM 0750).

3. The X.21 and X.25 features are mutually exclusive.

EPROM card (used as a Translate feature, Extended Function A for Models K01 or S01, Model S01 Translate RPQ and patch card)



Communication Feature Information

1000 How to Use Communication Tables

Use the following chart to determine the table of communication lines to use with MAP 1000 for the communication feature that is installed.

Communication Feature	Table of Communication Lines
EIA (old style)	1021A
EIA (new style)	1021B
DDSA	1022
XLCA w/o X.21 sw	1023A
XLCA w X.21 sw	1023B

In each of the above, there are three types of lines: X (transmit), R (receive), and P (power). With an error code of 638C47 displayed, the example below indicates that both an X-type and an R-type of line have failed. In this case, when the MAP has the question: *Does the error code indicate an X-type of signal?*, you should answer *yes*.

Table of Communication Lines (Example)

Signal Line	Line Type (Note 5)	A1/C1 Pin	Wrap 2 Path	Error Code (Note 3)		C2/D2 Pin	Error Code 638CXX		Wrap 3 Path	I/O Panel Comm Conn/ And DCE Pin	Wrap 4 Path
				Gnd	Open		Gnd	Open			
				XX=	XX=		XX=	XX=			
-Data terminal ready	X	B02	→	12	13	D02	46	47	→	20	
-Data set ready	R	B13	←	12	13	D09	46	47	←	6	

Note: The error code format is either 621YXX or D91YXX, where

Y = 1 XLCA
2 DDSA
4 EIA

XX = Error description

The signal wrap path in the tables indicates if the signal is wrapped.

Quick Reference Fru List

AC Power Cables . . . . . See Fig. 5

DDSA Cable 2452255
DDSA Card 8527032
EIA Cable 2452259
EIA Card (New Style) 2452027
EIA Card (Old Style) 5864668
Enhanced Keyboard Feature ROS Module 96X4650
Extended Function A Feature ROS Module 63X4457
Extended Function A for Model K01-S01 . . . . . 15F9922
Expanded Function Feature ROS Module Model K01-S01 2452381
Fan Assembly (100V) 2452798
Fan Assembly (200V) 2452799
Fuse (1A) 303549
Fuse (2A) 615683
Internal AC Cable Asm (Austria, Yugoslavia and South Africa Only) 2452260
Internal AC Cable Asm (Except Austria, Yugoslavia and South Africa) 2452277
Internal Communication Cable 2452230
I/O Cable Assembly 2452273
Japanese Translate Card (For Use With Model 01 Only) 2452383
LED and Cable Assembly 2452217
Logic Board 2452166
Main Planar, Model K01, With or W/O X.25 W/O X.21 Switched 69X8090
Main Planar, Model K01, W/X.21 Switched 69X8089
Main Planar U.S., Canada (English), Japan With X.25 . . . . . 66X9998
Main Planar U.S., Canada (English), Japan W/O X.21 Switched or X.25 . . . . . 63X4580
Main Planar U.S., Canada (English), Japan W/X.21 Switched 63X4578
Main Planar WT, (Except Canada (English), Japan With X.25 . . . . . 66X9999
Main Planar WT, (Except Canada (English), Japan W/O X.21 Switched or X.25 . 63X4581
Main Planar WT, (Except U.S., Canada (English), Japan) W/X.21 Switched 63X4579
Power Supply Asm (100V) 2452182
Power Supply Asm (200V) 2452183
Rate Switch (WTC) 2452283
Rate Switch Cable Assembly (WTC) 2452274
ROS Feature Pre-Reg Card (New Style) 67X0718
ROS Feature Pre-Reg Card (Old Style) 2451982
Southeast Asia Region Translate Card 69X7792
Test/Normal Switch 2452283
Text Entry Assist Feature ROS Module A 2452072
Text Entry Assist Feature ROS Module B 2452022
Text Entry Assist "A" Feature ROS Module A 96X4601
Text Entry Assist "A" Feature ROS Module B 96X4598
Twinaxial Driver/Receiver Card 2452110
X.21 Switched Support Feature ROS Module 2452080
X.25 ROS Module 2452371
XLCA Cable 2452187
XLCA Card 8564561

Part I

To find parts quickly, a general understanding of the structure of this catalog is necessary. The catalog is divided into three major sections:

- The Visual Index, containing overall views of the machine, with call-outs pointing to detailed figures.
- The Catalog Section, containing a pictorial breakdown of assemblies and subassemblies.
- The Numerical Index, which is a numerical list of all parts used in the machine, with cross-references to the figure on which the part is found.

VISUAL INDEX
The Visual Index, located before the Catalog Section, contains a reduced illustration of every figure in the Catalog Section. The reduced illustrations are tied together with flow arrows to form a natural progression from large assemblies to small assemblies and possibly subassemblies. In effect, a visual table of contents is formed by the Visual Index illustrations.

CATALOG SECTION
The Catalog Section contains the full-sized illustrations previously noted in the Visual Index. Index numbers on figures refer to corresponding entries in the Group Assembly Parts List accompanying each figure. Refer to part II for explanation of terms used in the Group Assembly Parts List.

NUMERICAL INDEX
The Numerical Index is located after the Catalog Section and contains a complete list, in numerical order, of all part numbers used on the machine. Listed with the part number is the index and figure number on which the part is illustrated. The numerical index makes it possible to locate a part when only the part number is known.

STACKED INDEX NUMBERS
Stacked Index numbers are used when showing a part and its attaching hardware. The circled index number indicates the assembly is broken down within the figure.

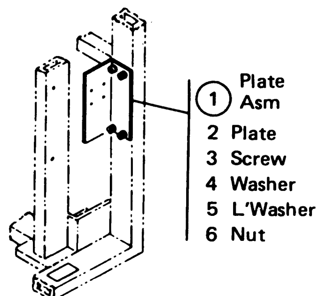


ILLUSTRATION NOTES
Cross-reference notes are directly on the illustration. The illustration's next higher assembly reference, normally located in the upper left corner of the page will read: "For Parts Not Shown See Figure X". If an assembly is referenced to a lower level figure, the note located next to the index number will read: " 5 See Figure X."

DOUBLE LINED DETAIL BOX.
The double lined box differentiates between parts shown on the basic model and parts related to a level and/or feature difference. An explanation of the level or feature difference is given in the double lined box.

FINDING A PART
The Visual Index is the starting point for locating a part. The illustrations in the Visual Index are reduced versions of all illustrations in the Catalog Section; therefore, the illustrations can be used to find the assembly containing the desired part. Use references to the detailed figure in the Catalog Section, or to another Visual Index illustration, to determine location of part number.

Once the detailed figure in the catalog section is determined, finding the part on the figure and referring to the listing for the part number and description is all that is required in most cases. If the first catalog section figure referenced shows the assembly containing the required part, the index number for the assembly will reference a lower-level figure where the assembly is broken down to its component parts. If the figure referenced by the Visual Index contains neither the part nor an assembly containing the part, it is then necessary to go to the next higher assembly figure. This figure should then contain the part or an assembly containing the part; if not, an even higher level figure must be used. Refer back to the Visual Index for some other figure that could show the desired part.

Note: Many detailed parts are unavailable, because they are part of an inseparable assembly (two or more parts welded or bonded together), or because they are part of an assembly purchased as a unit. If the part is found on a purchased assembly, and the detail parts of this assembly do not have IBM part numbers, in either case, you need to obtain the part number of the assembly, rather than the detailed part.

EXAMPLE FOR ORDERING PARTS

FIGURE-INDEX NUMBER	PART NUMBER	UNITS PER ASM.	DESCRIPTION FOR FIGURE 25 1 2 3 4
25	2592881		FAN ASM,60 HZ
- 1	2172166	1	• GUARD
- 2	2591483	AR	• SEAL
- 3	2592892	1	• BRACKET
- 4	2591431	1	• FAN ASM
- 5	334932	1	• • RING,TERMINAL
- 6	1166117	1	• • CONNECTOR
- 7	1166114	3	• • TERMINAL
- 8	2591402	1	• • FAN

If the entire fan is required, part number **2592881** should be ordered (all one dot items will be received). If only the subassembly is required, part number **2591431** should be ordered (all two dot items will be received). Each part may be ordered individually.

Note: If you order a part that requires a label, make sure you order the label in the correct langauge. For example: A part of a Quebec machine should have a French Canadian language label rather than a French language label.

FIGURE-INDEX	PART NUMBER	UNITS	DESCRIPTION
2-0	No PN	1	Base Assembly
-1	2452182	1	• Power Supply 100V 50/60 Hz
-1	2452183	1	• Power Supply 200V 50/60 Hz
-2	4364729	2	• Screw, Thd-Form 4.55 x 1.59 x 10 Lg (Power Supply Mounting)
-3	7362385	1	• Screw, Thd-Form Wshr Hd M4 x 8 Lg (Chassis Ground to I/O Panel)
-4	7362385	1	• Screw, Thd-Form Wshr Hd M4 x 8 Lg (Power Supply Connector Ground)
-5	2452277	1	• Internal AC Cable Assembly (Except Austria, Yugoslavia & South Africa)
-5	2452260	1	• Internal AC Cable Assembly (Austria, Yugoslavia & South Africa only)
-6	2452273	1	• I/O Cable Assembly(Standard)
-7	2452273	1	• I/O Cable Assembly(Feature)
-8	2452274	1	• Rate Switch Cable Assembly(WT Only)
-9	2452217	1	• LED and Cable Assembly
-10	2452251	1	• Guide Block
-11	2452383	1	• Japanese Translate Card (For Use With Model 01 Only) See 0710 For More Information
-11	69X7792	1	• Southeast Asia Region Translate Card (For Use With Model S01 Only) See 0710 For More Information
-11	15F9922	1	• Extended Function A For Model K01-S01 (For Use With Model K01-S01 Only) See 0760 For More Information
-12	63X4457	1	• Extended Function A Feature ROS Module See 0710 For More Information
-12	2452381	1	• Expanded Function Feature ROS Module Model K01-S01 See 0710 For More Information
-12	96X4650	1	• Enhanced Keyboard Feature ROS Module See 0710 For More Information
-13	96X4601	1	• Text Entry Assist "A" Feature ROS Module A See 0710 For More Information
-14	96X4598	1	• Text Entry Assist "A" Feature ROS Module B See 0710 For More Information
-15	2452080	1	• X.21 Switched Feature ROS Module See 0710 For More Information
-15	2452371	1	• X.25 Feature ROS Module See 0710 For More Information
-16	2451982	1	• ROS Feature Pre-Req Card(Old Style) See 0710 For More Information
-16	67X0718	1	• ROS Feature Pre-Req Card(New Style) See 0710 For More Information
-17	2452110	1	• DVR/RCVR Card(Feature)
-18	2452110	1	• DVR/RCVR Card(Standard)
-19	63X4580	1	• Main Planar US, Canada(English), Japan W/O X.21 Switched or X.25
-19	63X4581	1	• Main Planar WT, (Except Canada(English) Japan) W/O X.21 Switched or X.25
-19	66X9998	1	• Main Planar US, Canada(English) Japan With X.25
-19	66X9999	1	• Main Planar WT(Except Canada(English) Japan) With X.25
-19	69X8089	1	• Main Planar Model K01 With or Without X.25, W/O X.21 Switched
-19	63X4578	1	• Main Planar US, Canada(English) Japan With X.21 Switched
-19	63X4579	1	• Main Planar WT,(Except US, Canada(English) Japan) With X.21 Switched
-19	69X8090	1	• Main Planar Model K01/S01 With X.21 Switched
-20	2452141	2	• • Card Jack
-21	2452150	1	• • Card Holder
-22	2452027	1	• EIA Card(New Style)
-22	5864668	1	• EIA Card(Old Style) Obsolete for 5294 (Do Not Use)
-22	8527032	1	• DDSA Card
-22	8564561	1	• XLCA Card
-23	2452230	1	• Internal Communication Cable
-24	2452082	1	• Diode Jumper Assembly for XLCA Card

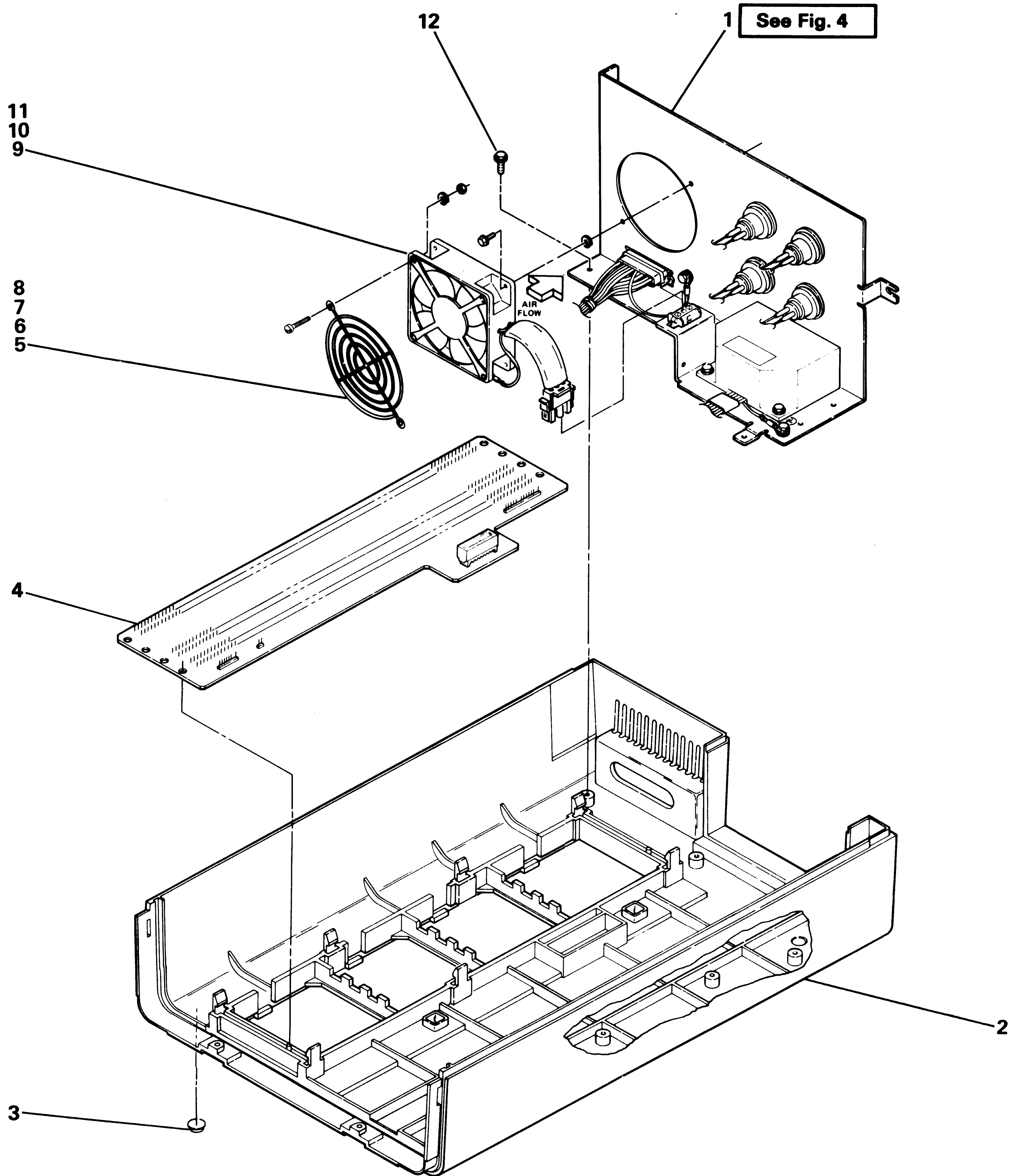


FIGURE 3. BASE ASSEMBLY. SEE LIST 3.

EXTERNAL COMMUNICATION CABLE ASSEMBLY CHART

P/N	CABLE ASSEMBLY *
2452259	EIA/CCITT
2452255	DDSA
2452187	XLCA
*	Cable assemblies include appropriate wrap connectors.

EIA ADAPTER CABLE CHART

P/N	CABLE
1727744	Adapter cable for use with Datel modems in U.K.
2452096	Adapter cable for use in Belgium and Brazil; other countries for X.21 bis interface as required and with modem eliminators as required
4834494	Adapter cable with test switch for use in Japan

FIGURE 6. CABLE CHART.

NUMERICAL INDEX

PART NUMBER	LIST AND INDEX NO.
45709	3 - 11
303549	4 - 5
615683	4 - 5
15F9922	2 - 11
1621191	3 - 6
1621813	1 - 6
1622302	4 - 15
1622343	4 - 19
1622346	3 - 7
1622346	4 - 8
1622346	4 - 13
1622399	4 - 18
1622401	4 - 14
1622403	3 - 8
2451982	2 - 16
2452022	2 - 14
2452027	2 - 22
2452032	3 - 5
2452062	1 - 2
2452072	2 - 13
2452080	2 - 15
2452082	2 - 24
2452085	1 - 11
2452110	2 - 17
2452110	2 - 18
2452141	2 - 20
2452150	2 - 21
2452166	3 - 4
2452178	4 - 1
2452182	2 - 1
2452183	2 - 1
2452184	1 - 14
2452186	4 - 6
2452189	1 - 3
2452217	1 - 13
2452217	2 - 9
2452230	2 - 23
2452230	4 - 2
2452247	1 - 5
2452251	2 - 10
2452260	2 - 5
2452260	4 - 16
2452263	3 - 2
2452272	1 - 1
2452273	2 - 6
2452273	2 - 7
2452273	4 - 20
2452273	4 - 21
2452274	1 - 7
2452274	2 - 8
2452277	2 - 5
2452277	4 - 16
2452283	1 - 8
2452283	1 - 10
2452287	4 - 9
2452288	4 - 11
2452305	1 - 9
2452307	1 - 9
2452308	1 - 9
2452309	1 - 9
2452310	1 - 9
2452311	1 - 9
2452312	1 - 9
2452314	1 - 9
2452315	1 - 9
2452316	1 - 9
2452317	1 - 9
2452318	1 - 9
2452362	1 - 1
2452371	2 - 15
2452381	2 - 12
2452383	2 - 11
2452798	3 - 9
2452799	3 - 9
2462685	3 - 10
2549531	1 - 12
4176278	1 - 4
4364729	2 - 2
4364729	3 - 12
5552863	3 - 3
5864668	2 - 22
63X4457	2 - 12
63X4578	2 - 19
63X4579	2 - 19
63X4580	2 - 19
63X4581	2 - 19
66X9998	2 - 19
66X9999	2 - 19
67X0718	2 - 16
69X7792	2 - 11
69X8075	1 - 1
69X8089	2 - 19
69X8090	2 - 19
7362385	2 - 3
7362385	2 - 4
7362385	4 - 4
7362385	4 - 7
7362385	4 - 10
7362385	4 - 12
7362385	4 - 17
7362385	4 - 22
7364973	4 - 3
8527032	2 - 22
8564561	2 - 22
96X4601	2 - 13
96X4650	2 - 12
96X4598	2 - 14

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